

## SERVICE BULLETIN AMATEUR RADIO

SUBJECT	DATE
TS-440S PROTECTING Q33	01/20/89

If pin 7 (RL) of the remote connector is accidentally connected to ground, current from the 14 volt line (14L) will damage transistor Q33 on the IF unit. This will prevent the radio from transmitting. To protect Q33, a 4.7 ohm resistor should be installed in series with the RL line on the foil side of the IF board. In the event that pin 7 is connected to ground, the resistor will open, but the transceiver will still be capable of transmitting.

### REQUIRED PART:

4.7 OHM, 1/6 WATT RESISTOR ..... RD14CB2C4R7J

1. Disconnect the power supply and antenna from the transceiver.
2. Using a #2 Phillips screw driver, remove the 9 screws from the top cover of the transceiver. Remove the cover and unplug the speaker wire.
3. Locate connector 19 on the IF unit (FIGURE 1).
4. Using a #1 Phillips screw driver, remove the 7 screws that secure the IF unit to the chassis of the transceiver.
5. Pull the board up and rotate it towards the front of the transceiver to expose the foil side of the board.
6. On the foil side of the board, locate the trace that is directly under pin 3 (brown wire) of connector 19 (FIGURE 2).
7. Using a craft knife, cut the trace as shown in Figure 2.
8. Solder the 4.7 ohm resistor across the trace as shown in Figure 2.
9. Assemble the transceiver by reversing steps 1 - 5.

This is an optional change that may not be covered under warranty.  
Time required for this modification is 0.5 hrs or less. (C) 112188TKC

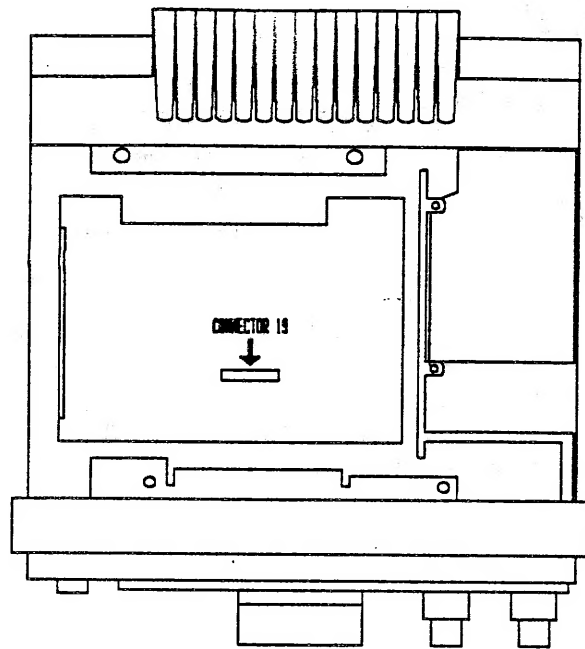


FIGURE 1

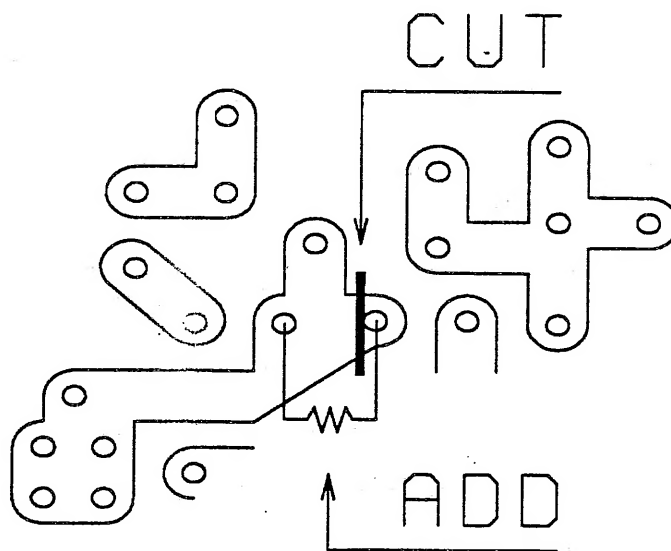


FIGURE 2